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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,766	06/27/2003	Liming Lou	AI 286	5504

23995 7590 02/18/2005

RABIN & Berdo, PC  
1101 14TH STREET, NW  
SUITE 500  
WASHINGTON, DC 20005

EXAMINER

PATEL, VISHAL A

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/606,766

**Applicant(s)**

LOU, LIMING

**Examiner**

Vishal Patel

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 2,3 and 12-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-11 and 15-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/27/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 2-3 and 12-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected specie, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/27/04. Furthermore claims 2-3 are withdraw because the limitation “the sliding contact portion includes an annular seal lip rotated relative to the contact surface” reads on a non-elected specie.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

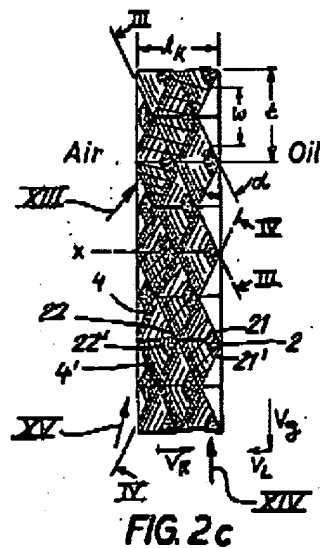
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 11 and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Grorich (US. 3,973,781).

Regarding claim 1, 11 and 15-18: Grorich discloses a sealing device comprising a sealing member brought into contact with a contact surface (surface of 17c) so as to be slidable in a predetermined sliding direction, the sealing member comprising a sliding contact portion containing a high polymer material to be brought into sliding contact with the contact surface, a plurality of streaks (see attached figure of Grorich), which are independent of one another, provided side by side so as to constitute a column on a surface of the sliding contact portion. The sealing device having a plurality of columns (each row of columns that are indicated by different cross hatching). The recessed or protruding streaks constituting the column are inclined

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along the circumference of the seal member. The high polymer material includes rubber or synthetic resin. The recessed or protruding streaks constituting the column (each cross hatching indicated in the attached figure) are alternately inclined in opposing directions in a sliding direction.



### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yomogida (09-210088).

Yomogida discloses a sealing device comprising an annular piston accommodated in an annular fluid chamber in the annular accommodation chamber, there being provided a plurality

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of sealing members (each lip seal contacting a surface as showed in figure 2), the plurality of sealing member including inner and outer sealing members provided in the annular piston (inner and outer sealing members as seen in figures 1-2, seal member attached to 62 and seal member attached to 63), the annular accommodation chamber is formed between an inner cylinder and an outer cylinder in the housing (see figure 2), an outer peripheral surface of the inner cylinder and an inner peripheral surface of the outer cylinder are respectively provided with contact surfaces respectively corresponding to the inner and outer sealing members, an annular partition plate (13) for defining an annular back pressure chamber for applying back pressure to the annular piston, the plurality of sealing members including an annular sealing member (15) provided on at least the outer periphery of the partition plate, the annular piston comprising an inner cylinder, an outer cylinder, an annular end wall for connecting respective one end of the inner cylinder and the outer cylinder (inner and outer cylinder showed in figure 2), the annular piston includes a piston *for operating of a clutch in an automatic transmission of an automobile (intended use)* and an inner peripheral surface of the outer cylinder being provide with a contact surface corresponding to the annular sealing member provided on the outer periphery of the partition plate. The sealing device further comprising a sealing member (7) brought into contact with a contact surface that is slidable in a predetermined direction and the direction being axial or linearly reciprocating. The sealing member comprising a sliding contact portion containing a high polymer material to be brought into sliding contact with the contact surface (7 contacts a surface of 3). Yomogida discloses the invention substantially as claimed above but fails to disclose that the sealing member having plurality of recessed or protruding streaks, which are independent of one another provided side by side so as to constitute a column on a surface of the

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sliding contact surface. Grorich discloses a sealing member to have plurality of recessed or protruding streaks, which are independent of one another provided side by side so as to constitute a column on a surface of the sliding contact surface (each plurality of recessed or protruding streaks that form a column indicated in blue or purple as showed in attached figure). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the contact surface of the sealing member of Yomogida to have plurality of recessed or protruding streaks to form a column as taught by Grorich, to provide a contact surface that is excellent in packing capability, extremely low friction, effective static packing in non-motion and efficient dust insulation (column 12, lines 65-68 of Grorich).

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***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Otto teaches to have hydrodynamic features on rotating surface or face seal surface. Tejima teaches to have column hydrodynamic features on a face seal surface. Bainard, Dietle, Yoshida et al, Jagger and Yamada et al all teach a lip seal having column hydrodynamic features.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is (703) 308-8495. The examiner can normally be reached on Monday through Friday from 7:30 PM to 4:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford, can be reached on (703) 308-2978.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168. Technology Center 3600 Customer Service is available at 703-308-1113. General Customer Service numbers are at 800-786-9199 or 703-308-9000. Fax Customer Service is available at 703-872-9325.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:** 703-872-9326, for formal communications for entry before Final action: or,  
703-872-9327, for formal communications for entry after Final action.

Hand-delivered responses should be brought to Crystal Park Five, 2451 Crystal Drive, Arlington, Virginia, Seventh Floor (Receptionist suite adjacent to the elevator lobby).

VP  
January 21, 2005



Heather Shackelford  
Supervisory Patent Examiner  
Tech. Center 3600